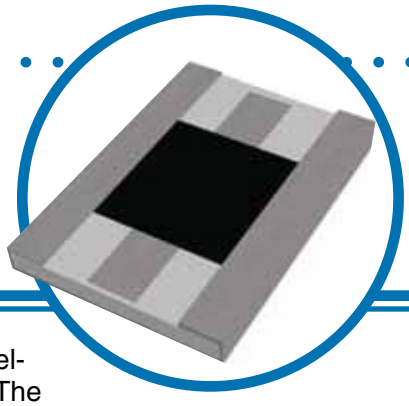
High Frequency Surface Mount Attenuators

TT electronics
IRC Advanced Film Division

PAT-W

- 10GHz operation
- ±50ppm/°C absolute TCR
- 50 impedance available in 2 chip sizes available
- Wrap-around 90/10 Sn/Pb or 100% Sn terminations



The PAT-W series high performance chip attenuator provides excellent high frequency performance at power ratings up to 250mW. The wrap-around construction provides reliable low cost, surface mount assembly. Long term operational stability is achieved from the thin film construction. Typical uses include applications in medical, industrial, and communications.

Electrical Data

	PAT3042	PAT4556
Impedance	50	
TCR	±50ppm/°C	
Attenuation (dB)	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 16, 20	
Power Rating @ 70°C	250mW	500mW
VSWR	DC to 2GHz = 1.1 2GHz to 5GHz = 1.2 5GHz to 10GHz = 1.3	
Operating Temperature Range	-55°C to +125°C	
Terminations	90/10 Sn/Pb or 100% Sn	

Attenuation Tolerance Data

Attenuation Value	Attenuation Tolerance Code	DC to 2GHz	2GHz to 5GHz	5GHz to 10GHz
0dB	A	+0.1/ -0dB	+0.2/ -0dB	+0.4/ -0dB
1 to 10dB	A	±0.1dB	±0.2dB	±0.4dB
	B	±0.2dB	±0.3dB	±0.5dB
16, 20dB	B	±0.2dB	±0.3dB	±0.5dB

Environmental Data

	Test Condition	Attenuation		Impedance
		0 to 10dB	16, 20dB	
Short Time Over Load	2.5 x Rated Voltage, 5 sec	±0.01dB	±0.02dB	±0.2%
Load Life	1000 Hours, 70°C	±0.02dB	±0.04dB	±0.5%
Moisture Resistance	1000 hours, 60°C, 95% RH	±0.02dB	±0.04dB	±0.5%
Temperature Cycle	5 Cycles, 125°C High, -55°C Low	±0.01dB	±0.02dB	±0.2%
Resistance to Solder Heat	260°C, 10 sec.	±0.01dB	±0.02dB	±0.2%
Solderability	235°C, 3 sec	>95% coverage		
Insulation Resistance	500V, 1 minute	>1000M		

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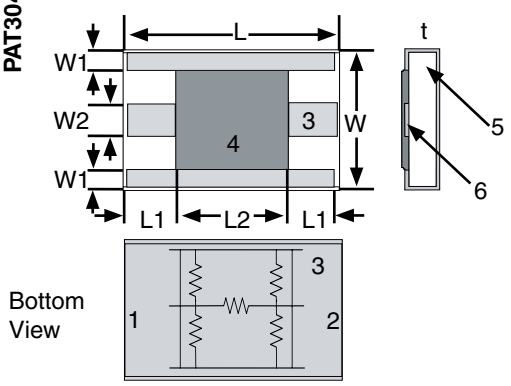
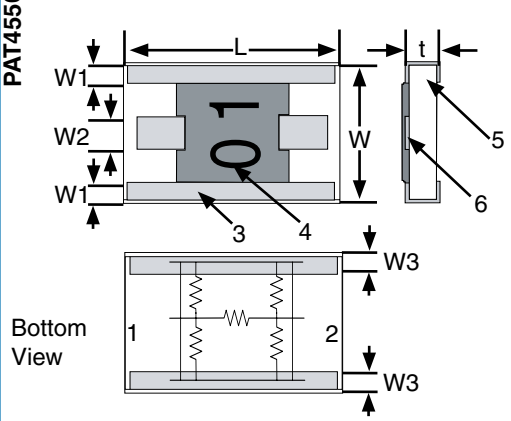
Physical Data

PAT3042



	Dimensions (mm)					
	0dB	1dB	2 to 3dB	4 to 6dB	7 to 10dB	16, 20dB
L2	4.20 ±0.20	0.30 ±0.20		0.60 ±0.20	0.90 ±0.20	1.80 ±0.20
L1	---	1.90 ±0.20		1.75 ±0.20	1.60 ±0.20	
W1	0.30 ±0.15	0.40 ±0.15				
W2	0.85 ±0.10	0.65 ±0.1				
L	4.20 ±0.20					
W	3.02 ±0.20					
t	0.80 ±0.15					

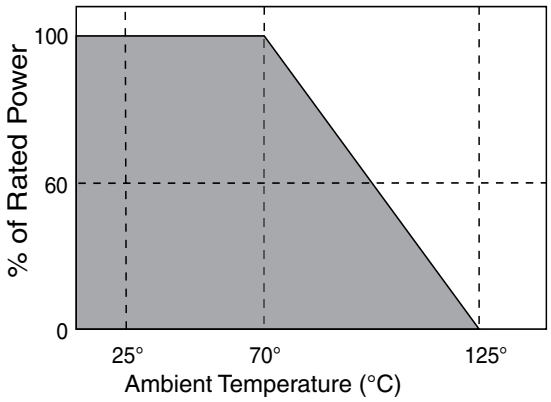
PAT4556



	Dimensions (mm)	
	0dB	1to10dB, 16dB, 20dB
W1	0.06 ±0.10	0.40 ±0.15
W2	0.64 ±0.10	1.3 ±0.1
W3	0.60 ±0.10	
L	5.60 ±0.20	
W	4.50 ±0.20	
t	0.80 ±0.15	

1, 2: Input and output terminals 3: Electrode (surface soldering and lead-free possible) 4: Covering resin 5: Alumina substrate 6: Thin film resistor

Power Derating Curve



Ordering Data

Prefix HFR - PAT3042W - 50R0 - 3 A

Model
PAT3042W = Surface Mount Attenuator with 90/10 Sn/Pb terminations
PAT3042WLF = Surface Mount Attenuator with 100% Sn Terminations
PAT4546W = Surface Mount Attenuator with 90/10 terminations
PAT4546WLF = Surface Mount Attenuator with 100% Sn Terminations

Impedance
50R0 = 50Ω

Attenuation
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 16, 20dB

Attenuation Tolerance
A, B